

What is claimed is:

1. A disc type eccentric rotor having two or more air-core coils and generating a difference in centrifugal forces by the rotation of the rotor itself, the rotor comprising:

5 a flat type commutator member having a shaft insertion through hole in the center thereof;

a plurality of commutator land segments formed around the shaft insertion through hole on a first side of the flat type commutator member;

10 wound type air-core coil arrangement guides formed outside the shaft insertion through hole on a second side of the flat type commutator member;

air-core coil end portion connection lands formed circumferentially on the second side of the flat type commutator member;

15 a shaft holder installed around the shaft insertion through hole on the second side of the flat type commutator member; and

wound type air-core coils installed at the wound type air-core coil arrangement guides and having the end portions thereof connected to the air-core coil end portion connection lands.

20 2. The rotor as claimed in claim 1, wherein the air-core coils are radially arranged at a predetermined angle and at least one air-core coil is formed as a printed wiring type air-core coil.

25 3. The rotor as claimed in claim 2, wherein the air-core coils comprise one printed wiring type air-core coil and two wound type air-core coils, and the air-core coils are arranged so as not to overlap one another.

30 4. The rotor as claimed in claim 2, wherein the air-core coils comprise two printed wiring type air-core coils and one wound type air-core coil, and the air-core coils are arranged so as not to overlap one another.

5. The rotor as claimed in claim 1, wherein wound type air-core coil arrangement guide apertures and reinforcement holes are formed on the printed wiring type commutator member, and the reinforcement holes and the wound type

air-core coil arrangement guide apertures are respectively connected through grooves.

6. The rotor as claimed in claim 4, wherein the shaft holder and the wound type air-core coil arrangement guides are integrally formed of the same resin by outsert molding on the flat type commutator member.

7. A disc type eccentric rotor having one or more wound type air-core coils and generating a difference in centrifugal forces by the rotation of the rotor itself, the rotor comprising:

a flat type commutator member having a shaft insertion through hole in the center thereof;

a plurality of commutator land segments formed around the shaft insertion through hole on a first side of the flat type commutator member;

a shaft holder installed around the shaft insertion through hole on a second side of the flat type commutator member;

wound type air-core coil end portion connection lands formed circumferentially on the second side of the flat type commutator member;

at least one wound type air-core coil installed outside the shaft holder on the second side of the flat type commutator member and having the end portions thereof connected to the wound type air-core coil end portion connection lands; and

an eccentric weight formed of tungsten alloy to be installed within the thickness of the wound type air-core coil on the second side of the flat type commutator member, the weight fixed to the flat type commutator member by means of resin.

8. The rotor as claimed in claim 7, wherein at least one printed wiring type coil is formed at a position of the flat type commutator member where the eccentric weight is installed.

9. A flat type vibrator motor comprising:

a disc type eccentric rotor having at least one air-core coil and generating a difference in centrifugal forces by the rotation of the rotor itself;

a shaft for supporting the eccentric rotor;

a magnet for providing a magnetic field for the rotor via a gap therebetween in an axial direction;

a brush arranged inside the magnet for providing electric power to the air-core coil through the flat type commutator member, and

a housing accommodating all the above elements.

10. The vibrator motor as claimed in claim 9, wherein the shaft is fixed at one side of the housing and a member for preventing the eccentric rotor from moving in a radial direction is installed at the other side of the housing.